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SOME DETERMINISTIC IMPLICATIONS OF THE PSYCHOLOGY OF ATTENTION.¹

I.

THE PSYCHOLOGY OF ATTENTION.

NOW that some of our foremost metaphysical psychologists have defined the effort of the will to be an effort of attention, the only true way to approach the problem of 'freedom' seems to be by a study of the attention process and its implications.

We must accept first the statement that attention is coextensive with consciousness. Stated positively, this means that every conscious state is in some degree attended to. Stated negatively, it means that attention is impossible until the object of attention is present in consciousness.

The object of attention may enter consciousness in two ways : it may come from without through sensory excitation, or from within through representation in some associated train of thought. No other methods of entrance are possible. In the absence of any superior authority, it is evident that our attention-objects are selected for us ; in the field of sensorial presentation by 'chance ;' in the field of representation by the law of association operating upon prior sense experience.

Once within consciousness, every attention-object tends to be unfolded or to unfold itself—spontaneously through intrinsic reasons, voluntarily through extrinsic reasons. In the primary sense experience, we attend because the object has an interest for us, because it excites either an agreeable, or a disagreeable, or a mixed psychic state. To strike deeper, it has an interest for us because of its harmony or discord with preformed and present-existing tendencies, and the hedonic tone of the experience, its agreeable or disagreeable quality, is but the surface indication of the deeper lying relation.

¹ Abstract of a Thesis presented at William's College for the Master's Degree.

In the first analysis of voluntary attention, motives are the substitutes for feelings as initiators—the attention-object is a means to an end. Ribot has traced the growth of the power of attention through four psychic life periods.¹ The infant is capable only of spontaneous attention, determined by the object's power of attraction. In the second period, the educator employs only simple feelings, fear, hope of reward, and curiosity, which seems to be the appetite of intelligence. In the third, artificial attention is aroused by secondary feelings, ambition, emulation, duty. The fourth period is one of organization; attention is aroused and sustained by habit. The mere fact of being placed in a certain attitude, amidst certain surroundings, brings with it all the rest; present interests yield to an accumulation of prior interests. Then eliminating the 'educator,' Ribot's formula reads as follows: "Voluntary attention originated under the pressure of necessity, and of the education imparted by things external."² Whether the savage worked that he might not starve, or made a present to his chief to secure his favor, whenever means which had no interest were first made to minister to an interesting end, there voluntary attention first appeared—all before that was spontaneous. The conclusions of Ribot and Stout³ on this point are here accepted without comment; voluntary attention is a later growth derived from the spontaneous form.

In every case of attention, the object forms the nucleus for its psychic fringe, a center to which thought again and again reverts. Left to itself, through association and discriminative sensory accommodation, it gains distinctness, breadth, and dynamic efficiency, and this process of expansion continues until its end is attained (until it issues in action or its interest is exhausted), or fatigue destroys its efficacy. It may cease also by the occurrence of some competing impression, the rise into consciousness of some new attention-object attractive enough to drive the old from the field. In voluntary attention, the object is not left to itself. We direct its course hither and thither. By the process of selec-

¹*The Psychology of Attention*, pp. 39, 40.

²*Ibid.*, p. 43.

³*Analytical Psychology*, Vol. II, 97-103.

tive attention, we retain certain parts of the psychic fringe as they appear, and reject others. We are masters of the expansion process even to destroying it. If the word voluntary means anything, it means this.

The question of causality has greatly confused the deterministic controversy. It involves all the polemics of materialism and idealism. If we accept the Kantian conception of uniformity of antecedence and consequence in time, we may say that attention is the cause of movement. There are two parts in any volition—first, a psychic state which may be expressed by the words ‘I will.’ This has no efficiency whatever—we may form a resolution and never carry it out. There is also a physiological process of which the psychic state is the mere accompaniment. Nervous energy, a physical force, is the motion-producing factor. The change from afferent nervous impulse to consciousness, and from thought to efferent impulse, are ultimates which neither physiology nor psychology have yet explained. It is an irreducible psycho-physiological complex. We have a stimulation of brain-cells by brain-cells, and the rise into consciousness of corresponding psychic states which invariably accompany the excitation of brain cells and groups of cells. “Thought,” says Setchenoff, “is reflex action in its two first thirds.” Motion alone is absent. The nervous energy, which in a reflex issues in action, is expended internally to arouse another group of cortical cells, and we have an associated train of thought. The materialist will maintain that psychic states arise because of brain process. The idealist, with equal ardor, claims that brain processes are initiated and controlled by an ego of psychic states. The determinist gives up the idea of forceful causality, and, accepting the Kantian conception, sees only concomitance, and is content.

Attention, through apperception, is the process by which the mind grows. Character may be defined as the sum total of present and past apperceptive groups. According to Professor Stout, “a mental group or system is a grouped or systematized tendency,” and “apperception is the process by which a mental system appropriates a new element or otherwise receives a new determination.”¹ It presupposes, then, a mental group in stable

¹ *Analytical Psychology*, Vol. II, pp. 112, 114.

equilibrium. As a second factor, there must be attention to some novel and disturbing element. Thirdly, it presupposes a tendency to adaptation, a readjustment to stable equilibrium. Every time a mental group enters into action, it is modified—it acquires new components or discards new or old elements, it becomes more or less excitable than before. If character depends on apperceptive systems, their presence or absence, and their relative strength, attention is the process through which these systems are formed and modified. If the new attention-object is in harmony with a preformed tendency, it is adopted and the mental group becomes more comprehensive. If antagonistic, the new factor must form the nucleus for a totally new mental group. The work accomplished is a classification of experience, and all experience is subjected to it. The infant reaches out its hand to the flame because of its instinctive desire for bright objects. The burn it receives initiates a new discrimination between bright objects that are painful, and those that are not. If the readjustment is accomplished by noetic synthesis of the new with the old, we have positive apperception. If the attempted synthesis is defeated, we have negative apperception, which is equally a readjustment in that the new factor is excluded, as when we say, ‘The daisy is not fragrant.’

Here we may define conflict as “a state of more or less prolonged suspense between positive and negative apperception.”¹ Will, then, as a conscious psychic state is either an affirmation or a denial of the relation between a new experience element and an established mental system. This, however, is only the psychic term in the psycho-physiological complex. The will finds no occasion for exercise except through conflict. Voluntary attention is selective attention. The Kaffir cannot say, ‘I will attend to a monocle,’ until through spontaneous attention he experiences what a monocle is.

The relative strength of competing apperceptive systems is determined in certain known factors which Stout has tabulated:² coöperation, organic influence, closeness and complexity of or-

¹ Stout, *Analytical Psychology*, Vol. II, p. 145.

² *Ibid.*, Vol. II, pp. 131-137.

ganization, comprehensiveness, strength of coherence, are but a few of the elements governing conflict. When any mental system is excited, the entire group does not enter consciousness, but remains to a large extent beneath the threshold, certain parts emerging as they are required under the control of noetic synthesis. The subconscious components are equally influential with the emergent, and this is evidently the meaning of action determined by character. The man whose apperceptive totality is self-centered is generally unconscious of his selfishness. He cannot realize that the beggar's appeal is negatively rather than positively apperceived, because his tendency is so unassailable that its equilibrium is only lightly shaken. If he indulges in introspection, he sees only the play of motives, temporary and fleeting, and the stable mental group, because it is below the threshold, escapes attention.

Attention as a conative process consists in expansion and definition. Its result is prominence in consciousness of one object to the exclusion of others. The striving is not for entrance. We cannot by direct effort bring any object above the threshold. We may feel a void or absence and a conscious purpose to fill that void, but the various steps in the process of satisfaction are outside of our control. We expect and invite all objects which minister to a given purpose, without prescience of them. Their own inherent strength and the law of association determine what objects shall respond to the invitation. The mechanism of attention is motory. Every perception, image, and idea contains the germs of its own development. To inhibit or intensify, attention must act through motory readjustment. It may be only vaso-motor in the cortex of the brain, it may be through change in the respiration or in the muscular system, especially in facial expression. These physical phenomena are neither causes nor effects, but accompaniments, integral parts of the psycho-physiological complex. We may have motory adjustment without attention, but no attention without motory adjustment. A more complete defence of this thesis will be found in Ribot's *Psychology of Attention*,¹ and confirmatory evidence

¹ pp. 52-59.

in the researches of Ferrier and Starr, and in the pathological cases investigated by M. Guge, of Amsterdam. Stout, while holding that attention is a purely psychical fact,¹ "the direction of thought to an object,"² and that motor accommodations are not an integral part of the attention process, but merely a means of sustaining and promoting it, is forced to admit that "the function they discharge is not merely important, but actually indispensable." It is an open question whether a function indispensable to a process is not an integral part of that process.

I venture to repeat here that *what* our attention-objects shall be is determined for us by spontaneous attention, and later by the law of association. We may select only *which* among these shall expand themselves in consciousness. We mean then by fixation of attention, not how to introduce an object, for attention is impossible until its object is above the threshold, but we mean rather how to develop it and maintain it against opposing attention-objects after its emergence.

It is equally true—even axiomatic—that we can cease to attend to a certain object only by attending to something else. Consciousness is continuous. This is equivalent to saying that remission of attention is possible only indirectly—by transference of attention to some antagonistic object. Then comes the question: Is the one object rendered prominent by suppressing others, or are the others suppressed by the exclusive nature of the one? The positive effort of attention to one object can never be identical with an effort to inhibit other objects, nor can it depend on such negative effort, for the attention-object is at once changed to an idea, the idea of inhibiting the other objects. This is equally true in muscular movements. The effort to move the arm in one direction is never identical with the effort to keep it from moving in all other directions. When in anger, we drop the arm by the side, this movement from its very nature prevents the blow we were about to strike. The inhibition of attention from one object is accomplished only by attending to another object. The law admits of no exceptions. Every object of attention tends of itself

¹ *Analytical Psychology*, Vol. I, § 7, pp. 203, 204.

² *Ibid.*, Vol. I, p. 209.

to expand and develop, opposing objects being absent. It needs no acceleration, and we can direct or annihilate its inherent motion only by attending to certain selected relations, or to totally new objects.

The distinction should be emphasized between 'attention as the direction of consciousness *to* an end,' and 'attention as the direction of consciousness *for* an end.' The end for which is a purpose; the end to which a presentation or representation. In solving a riddle, the purpose is coexistent with its positing. The form of the conundrum suggests certain answers whose character depends on previous experience. Attention cannot be directed to them until they appear in consciousness through some association. Then we attend to them as ends until, through selection, they are accepted or rejected as meeting given conditions. The ends to which may be many; the end for which is one. The end for which may be expressed as a verb—to solve; the end to which as a noun—solution.

But if attention is not the direction of mental activity to an end, what is it? The arousal of mental activity for an end. The object appears and expands not because we direct attention to it; it antedates and solicits attention *for a given purpose*. Here we differ from Stout.

Attention in the last analysis is the mental attitude of receptivity. Fixation of attention is the process of motor or vaso-motor adjustment by which the receptivity is accompanied, and the feeling of effort is the 'reverberation in consciousness' of this adjustment. Attention is a permissive state. It allows the object to expand by the law of association or discriminative perception. It can inhibit the expansion only through the readjustment of consciousness and of motor processes, so that they become more receptive to an associated or new attention-object. Receptivity to one object renders consciousness less receptive to all others. The permanence of the receptive attitude for a given object depends on its strength of interest for us, which we have defined as its harmonious or discordant relation to an established apperceptive system. This receptive state is constituted psychically by the determination to attend. Establish an end for which we strive, and

the mind instantly becomes receptive to all impressions or representations which may minister to that end, and among these in the degree of such ministration and of their interest. Physiologically, the act of will is accompanied by increased activity in the corresponding brain cell, or group of cells, which renders more susceptible to excitation those cortical cells related to it in the same manner that all possible attention objects are related to the end for which. The motory adjustment, which, reverberating in consciousness, produces the feeling of effort, follows on the excitation of the main brain cell corresponding to the volition to attend. We agree with Bradley, that this feeling of effort is illusory in that it is ineffective. It is a psychic fact accompanying motor change. In attention to images and ideas, it may be nothing more than a dim awareness of vaso-motor adjustments. In trying to recall a forgotten name, we establish the 'end for which,' and 'the idea of end both prompts and selects the means which satisfy it.' Of its own motion it introduces into consciousness in turn every experience we have ever had of the person whose name we seek to recall. We may be forced to give up the attempt and attend to some foreign attention object, and after a few minutes the name suddenly rises above the threshold. This added phenomenon seems to prove two things. First, that when the process of expansion, is once initiated by the establishment of the purpose, its further development is inherent in itself, even when not consciously attended to, *i. e.*, when consciousness has become receptive in another direction. Secondly, we can account for the final emergence above the threshold, not by any direction by the ego of attention to the forgotten name, for all conscious activity in that direction has ceased, but rather by the supposition that the receptivity to such representations, because of its recency, is extremely susceptible to reinstation.

We are now able definitely to delimit the sphere of will. In spontaneous attention will is absent. The object attracts us in the measure of its interest for us, and its interest compels our receptivity. We remain receptive until through satiety or fatigue, or the rise of another object of preponderant interest, the interest of the first object and our receptivity vanish together.

Voluntary attention is divisible into two forms. The first is teleological merely. It is consciously for an end, and for an end established by the individual, and therein it differs from spontaneous attention. It involves the same relation of interest and receptivity, but the will is absent if our former statement is true, that the will finds occasion for exercise only through conflict. In the first kind of voluntary attention, we attend for an end unimpeded, there are no conflicting objects soliciting attention. In the second kind, we attend for a purpose, but we attend to one object rather than to another, and will presupposes a motive for this discrimination. This motive or 'end for which' may be extrinsic or intrinsic, conscious or unconscious, but it is the first step in the volition process—without it we cannot become voluntarily more receptive in one direction than in another. The 'I will' represents, without producing it or being produced by it, the fact that we are receptive. Interest again constitutes receptivity for one object in preference to others, but it is here accompanied by a third concomitant psychic fact, an 'I will' which, because it is the only conscious psychic fact, seems to be a direct agent, and the only agent. Therefore, it has been said: "Voluntary attention is subject to the superior authority of the ego. I give or withdraw it as I please; by alternate turns I direct it toward different points. I concentrate it upon each point as long as my will can sustain its effort."¹ Therefore, attention has been so long regarded as a power or faculty of the mind by the older psychologists. It is in one aspect a mental attitude, in another a physical process. Broadly considered it is a psycho-physiological complex.

The pathology of attention considered in this light, is instructive. At one extreme we have 'hypertrophy' of attention (adopting Ribot's nomenclature), of which the fixed idea is a type. The state of receptivity, once formed, tends to become permanent, and the attention-object cannot be displaced from consciousness. It is exaggerated spontaneous attention. If our analysis of attention has been of any value, it shows that objects expand and maintain themselves in consciousness, of their own motion. The origin of 'hypertrophy' is in diseased interest or diseased appercep-

¹ Quoted by Ribot, p. 41.

tion, rather than in diseased will. At the other extreme is 'atrophy' of attention; apathy and hysterics. The mechanism of association becomes tyrannical and acts without selection. It is a reduction of interest in all objects to a common level; there is no selection, no receptivity for one rather than another object, because no object is more interesting or uninteresting than others. Will is inoperative because interest is inoperative.

II.

DETERMINISTIC IMPLICATIONS.

The dictum that effort of the will is coincident with effort of attention, needs some explanation. The subject matter of volition, on which it operates is conceived to be always and only attention-objects. We will the realization of some idea. The 'I will' is without the least efficacy in the physical world. We determine for some purpose to attend to a certain object. The attention process once initiated, there is a state of suspense between positive and negative apperception which we call deliberation. One object at length becomes positively apperceived, and its alternative thereby negatively apperceived, and this we call choice. Whether that object shall finally realize itself in the external world as movement, depends not on the will which initiates the attention process, but on a habit or tendency, closely akin to what we call obstinacy or firmness of will. 'Steadfastness' is the real synonym for will power in common usage. 'Strong-willed' means of undeviating purpose, and a weak-willed individual is one who, making resolves, is easily influenced to change or forget them. Strength of will depends on permanence of interest and its exclusiveness. Weakness of will is due to instability of interest.

The effort of attention as a psychic fact we have declared to be the reverberation in consciousness of peripheral, or perhaps vaso-motor, adjustments which accompany the formation of the receptive attitude. When Professor James declares the problem of free will to be "whether we could have given more effort of

attention to one alternative,"¹ this is equivalent to asking, whether the motory adjustment could have been made more intense, and could have been better adapted to the attention object. It involves the assumption that physical adjustment is the forceful cause of attention, and that the will operates directly on physical elements in adjusting them. The determinist in the first place denies all efficacy to the feeling of effort. The word 'reverberation' implies that the effort antedates the consciousness of it. Peripheral adjustment is neither the cause nor the effect of will, or of the attention process. It is a concomitant physical fact of equal importance in the process with the psychic fact of receptivity. The two are inseparable. There is no effort of the will which could influence selective attention, and so make for freedom. Were there such effort, its action would be necessarily psychical and exerted to reform and readjust perceptive systems so that, by this effort, the interesting should be made uninteresting and the uninteresting, interesting. In other words, the problem for the determinist reads, not whether there can be more effort given, for there is no efficacious effort, but *why* we attend to one object rather than to its alternative. Professor James's statement of the problem is based on the assumption that we do "act in the line of greater resistance," and his postulate of effort is consequently an essential. If we do so act, an attention-object weak at the outset of the process, may be rendered stronger than its opponent at the close, and this by direct effort. If that effort were all we were capable of, and yet it failed and the weak remained weak, the action would be determined. If we could have given more effort, but did not, then our wills are free. There are two vantage points here for the determinist. He may claim that determination consists in a limitation of the capacity for effort, or that, even granting a man does put forth effort, the object of two alternatives upon which the effort is bestowed, may be determined.

The one point I have striven to enforce in Part I has a most obvious application here when we ask Professor James how action in the line of greater resistance is accomplished—how by direct effort the weak attention-object may be made strong. We must deny

¹ *Psychology*, p. 571.

once more that the ego (granting that there is a soul-entity) can bring into consciousness by direct effort an object which is absent, or can bring above the threshold any part of an object's psychic fringe which lies below that threshold. We cannot become conscious of any object or sub-object until it appears through association or presentation. The phrase "action in the line of greater resistance" loses sight of that valid distinction between the strength of a tendency to produce action, and its prominence in consciousness. All our measurements of strength and resistance are presumptuous. Professor James admits this, when he says that the question of 'freedom' will never be settled on psychological grounds because the amount of effort is an unmeasurable quantity.¹ We may choose the painful instead of the pleasant, the evil instead of the good, the harmful instead of the salutary, but interest is something apart from algedonics, and action is the only criterion, the only test of the strength or weakness of our interest.

The deterministic statement of the problem is as follows: In spontaneous attention, our receptivity is admittedly determined by interest. When for any purpose we attend to an object which has no competitors soliciting us, our receptivity is again determined by interest. When for some purpose we attend to alternate objects, each solicits, each by its peculiar interest tends to render consciousness receptive exclusively to itself. The final outcome of the conflict is determined by their relative interest, unless the ego interferes by an act of will to destroy the interest of the one, or to increase the interest of the other. Granting that the will does so interfere, is its interference arbitrary, or should we be able to assign some reason or motive for its interference? If unmotivated, we have determination by nothing. If motivated, then interest appears again. We may conceive will to interfere with this interest in turn, and the only result is an infinite recessional chain of which interest or chance is the ultimate link.

To consider will as a faculty is to render the dilemma unavoidable. The postulate of freedom depends for its very existence on there being such a faculty. To the determinist, will is

¹ *Psychology*, Vol. II, pp. 572 ff.

as much a mere mental attitude as is attention, and freedom is consequently an irrelevant absurdity. If we mean by attention the mental attitude of receptivity, will is its first and last term. As a first term, it expresses futurity ; as a last term, finality. It is in both cases purely a psychic fact. 'I am receptive to this attention-object.'—'I cease to be receptive to this object.'

If this conception of will can be established, the problem ceases to exist. Man acts always in accordance with his character ; his action then is self-determined. It belongs to him and he acknowledges it. Every indeterminist, whose views I have studied proves conclusively that man is self-determined, but that is an easy task. We are willing to admit it at the outset. But the proof of man's self-determination is not proof of the freedom of his will. Professor Seth, in his chapter on "The Problem of Freedom" is a fair type of all indeterminists. His solution of the problem in brief is this : "Man starts out in life with certain pre-formed tendencies, and is placed in a certain environment. From these two raw materials each man creates his character. They only limit the sphere within which his field of activity lies. We see sometimes the best characters arise from the most unpromising materials, and the most promising materials sometimes result in conspicuous moral failures. Success is determined ultimately not by the material, but by the free play of the energy of the self. The central problem then is the nature of this self. If, on the one hand, the self is resolvable into its phenomenal states, if these exhaust its nature, the case for freedom is lost. If, on the other hand, moral experience presupposes at each stage the presence and operation of a permanent self, the case for freedom is made good. Out of wants, out of animal promptings, out of the provocations of sensibility, the self, by an activity of appropriation constitutes motives or ends of its own activity."¹

This activity of appropriation the determinist accepts. He raises no demurrer to Professor Seth's statement that "while the character may be the self, the self is always more than any such empirical manifestation of it, and in this 'more' which in any moral crisis rises above the character and envisages it and passes moral judg-

¹ *A Study of Ethical Principles*, pp. 345-388.

ment upon the springs of action and desire man feels present within him, it contains the secret of its moral life." This only has been proved. The self is a real agent ; it does the attending, the apperceiving, the selecting, the appropriating, the criticizing, the judging, the remodeling of character—but how and why ? ' By a direct effort of the will or of attention,' is the usual answer to the first question. The question ' why ' we should attend or apperceive or select or appropriate the good rather than the evil, remains unanswered. The alternatives of unmotivated choice or chance ; of determinism by divine providence, the pantheistic solution, and of determination by interest, exhaust the possibilities. The determinist declares for the last alternative. The will is neither free nor bound. It is not a faculty, but an experience of the self—as much a psychic state as is a sensation or an emotion.

Professor James, in his essay on ' The Dilemma of Determinism,' delivers a phillipic against the determinist's idea of chance. He gives an ingenious illustration of two universes in one of which he walks down Oxford street, and in the other down Divinity avenue, but which are otherwise identical, to show that prior to choice either alternative is equally possible, while after one alternative has been chosen, the determinist comes forward to say that the other was impossible ; had it been accepted it would have been due to chance, and he would make the same statement no matter which alternative were selected. His exposition of the deterministic view is unfair. When he assumes two universes differing only in the one point of the action, he assumes something that it cannot be proved ever happens. It implies that action may be initiated by nothing. The determinist would say rather : ' Had it been accepted, it would have been due to a readjustment of interest, were the action voluntary. If the action were automatic and involuntary, it would have been due to unconscious forces, which, because they were unconscious, transcend all discussion, and we have no right to label them ' chance,' because we are ignorant of their real nature.' He might add also that in the latter case, the fact that will is absent makes the example irrelevant. The recessional series with interest or chance as its ultimate term, is not an alternative between the known *versus*

the unknown, but between the known plus the unknown *versus* nothing. If by "the free play of the energy of the self," Professor Seth means that the self acts under the influence of the unknown, the determinist has no quarrel with him. But he evidently implies that the self acts under the influence of nothing, and this is what, in our view, is represented by the word 'chance.' It is because we cannot conceive that a man, for no motive, in answer to no influence, may create, out of no pre-existent germ, a reformatory desire, that "the stronghold of the deterministic sentiment is the antipathy to the idea of chance." If initiation by chance is interpreted as initiation by nothing, its absurdity is apparent.

If we leave off discussing the agency of chance, and define it with Professor James, as "the possibility that in moral respects the future may be other and better than the past has been,"¹ antipathy vanishes, for the determinist believes in just such possibilities. He is conscious in every choice that either the one or the other alternative may be realized. This 'consciousness of freedom' is to him a sense of ignorance as to which course he shall eventually pursue. Up to the moment of decision, he feels 'free' to choose either and he is free—his 'I will' may yet be given to the weaker alternative, but only by its becoming stronger through a readjustment of interest over which the will can have no direct control. The final close of deliberation by action alone makes the one impossible and the other necessary. For this reason the drunkard holds himself responsible. He has higher ideals which he fails to reach. The causes of his failure, the reasons why the evil has more interest for him than the good, may lie beyond his ken, and even more beyond the knowledge of the society in which he moves. Every man has such higher ideals, wherever they may have their source, in education or heredity or environment—ideals which have interest for him, and which he therefore strives to realize. He knows that yesterday the two possibilities were his, and he failed of the higher. That he may know all the influences which led to his failure makes little difference. They have to-day lost their vividness and reality, and he feels that he should have

¹ *The Dilemma of Determinism.*

surmounted all these difficulties and even more. His regret and his sense of responsibility are equally valid under the deterministic interpretation.

The position of the determinist is based on an exaltation of the function of attention, and a consequent diminution of the function assigned to will. The four factors in volition as popularly conceived are desire, deliberation, choice, and efficacious effort. Desire, for the determinist, is a broad term, equivalent to interest, and including both conscious and unconscious promptings to attend. Deliberation we have already defined as "a state of more or less prolonged suspense between the positive and negative apperception of attention objects." Choice is the final determining apperception itself. In these three stages of 'volition' we see only three stages in the attention process. Efficacious effort alone remains. By Professor James this effort of will is made identical with the effort to attend. It implies that, the attention-object once assured, permanency carries its own fulfillment. In *ideo-motor* action the mere idea alone is efficient. After a choice the state of affairs psychically is the same, a prominent idea, which, because it meets with no opposition, issues naturally in the act. Effort, then, must enter before the choice is consummated. It cannot effect the entrance into consciousness of any object or sub-object, and its function is restricted to selection between objects already present. This is determined by interest. The psychologist has fixed the field of effort to the motor or *vaso-motor* adjustment essential to attention. Such adjustment is unattended to until after it has been accomplished; its reverberation in consciousness is then the basis of the consciousness of effort. Therefore, such adjustment is involuntary, and the faculty of will is left without a function.

Attention—in its process of interest, conflict, motor adjustment, selection through preferential interest, apperception or choice and action—does all that is necessary and explains all there is to explain. The experience of will can differ in no respect from the experience of sensation or emotion—a psychic fact accompanying the attention process at the moment of choice, and indicative of our exclusive receptivity to the attention-object we have chosen. The pathology of will resolves itself into pa-

thology of interest or pathology of apperception. The will is free if a sensation or an emotion or a cognition is free. The determinist insists that the word freedom as applied to a psychic state, in any other sense than the possibility of its existence or non-existence, is an absurdity.

D. H. BLANCHARD.